

REMARKS

Reconsideration and withdrawal of the rejection and the allowance of all claims now pending in the above-identified patent application (i.e., Claims 18-35) are respectfully requested in view of the foregoing amendments and the following remarks.

At the outset, it should be recalled that the present invention relates to a plough, particularly a marine plough for the burial of cables and pipelines in a seabed of soft mud below water surface. Various marine ploughs currently known to the prior art suffer from the disadvantage that the direction of travel of the plough is affected by changes in the tow rope direction, along with any sideways forces, for example, as from side slopes that the plough may be traversing, which result in the marine plough, or at least a portion of it, being effectively dragged sideways across the seabed.

The present invention, as now broadly claimed, includes a plough comprising a plough share, one or more steerable soil-engaging fins and a tow rope attachment mechanism having a tow rope retention point. The tow rope retention points includes means for adjusting the position of the tow rope retention point relative to the plough, thereby altering the position at which the line of a tow rope retained by the tow rope retention point crosses the longitudinal axis of the plough, so that the plough can operate at a range of offset

tow positions.

As will be explained in greater detail hereinafter, nowhere in the prior art is such a novel and efficient plough for marine use, which may properly operate in an offset tow position, either disclosed or suggested.

By the present amendments, Applicant has cancelled prior Claims 1-17 and has substituted therefor new Claims 18-35, of which Claims 18, 32 and 34 are presented in independent form. Independent Claims 18, 32 and 34 correspond, generally, to original independent Claims 1, 11 and 17, respectively, and have been rewritten in conformance with U.S. claim practice and recite "means for" structural claim language for certain functions performed by the tow rope attachment mechanism of the claimed invention.

In drafting new Claims 18-35, Applicant has taken into consideration, and has incorporated, the Examiner's suggested claim amendments as presented as part of the Examiner's formal claim objections.

The subject matter of prior independent Claim 16 has not been carried forward into the newly-pending sets of claims.

Further, Applicant has cancelled the subject matter of prior dependent Claim 2 outright, thereby mooting the Examiner's drawing objection of the first Office Action, issued pursuant to 37 C.F.R. §1.83(a).

Turning now, in detail, to the Examiner's prior art rejections of Applicant's claims, in the first Office Action the Examiner has rejected the subject matter of Claims 1, 3-11, 16 and 17 (now Claims 18-27 and 32-35) as being anticipated, pursuant to 35 U.S.C. §102(b), by Grinsted, U.S. Patent No. 4,759,138, on the contention that Applicant's prior patent discloses a plow steering system comprising the structural elements of the plough now being claimed in the instant patent application.

In reply to the Examiner's anticipation rejection applying Grinsted '138, independent Claim 18 (corresponding to original Claim 1) recites the inclusion of a plough which has both steerable soil engaging fins and a tow rope attachment mechanism having means for adjusting the tow rope retention point relative to the plough. Grinsted '138 does not disclose or suggest any such steerable soil engaging fins.

Further new independent Claim 32 and 34 (corresponding to prior Claims 11 and 17, respectively), while not requiring the inclusion of steerable soil engaging fins, requires the incorporating of means for adjusting the relative lengths of the bridle limbs, which form part of the tow rope attachment mechanism, and further requires bridle limb retention points through which the respective bridle limbs pass. While Grinsted '138 does show a mechanism for adjusting the bridle limb attachment points, the applied citation fails to either dis-

close or suggest any adjustment of the relative lengths of the bridle limbs, nor the guides through which the bridle limbs pass.

Consequently, Applicant respectfully contends that Grinsted, U.S. Patent No. 4,759,138, lacking both steerable soil engaging fins and means for adjusting the relative lengths of the bridle limbs of the invention, can neither anticipate, nor render obvious, the present invention as now recited in independent Claims 18, 32 and 34 and, accordingly, withdrawal of the Examiner's 35 U.S.C. §102(b) anticipation rejection of the first Office Action, which applies Grinsted '138, is respectfully requested.

Separately, the Examiner has rejected the subject matter of original independent Claims 1, 11 and 16 (now independent Claims 18 and 32; Claim 16 having been cancelled outright) as being anticipated, pursuant to 35 U.S.C. §102(e), by Rowley, U.S. Patent No. 6,061,932. In this anticipation rejection, the Examiner has argued that Rowley discloses a steerable underwater plow with a steering system comprising a plough share, a soil-engaging fin/landslide, a tow rope attachment mechanism having a tow rope retention point of a connection plate, with the tow rope attachment mechanism being adapted to enable adjustment of the position of the tow rope retention point relative to the plough by movement of the bridle retention points, etc., thereby disclosing the structural

elements of Applicant's claims numerated in the rejection.

In reply to the Examiner's anticipation rejection applying Rowley, Applicant respectfully contends that Rowley does not disclose a steerable soil engaging fin, and Applicant is unsure regarding the Examiner's comments to the contrary. No analogous structure would appear to be present, or suggested, by Rowley and, as such, Applicant respectfully submits that the subject matter of new independent Claim 18 is neither anticipated by, nor obvious over, Rowley.

As for the subject matter of prior Claim 11 (now independent Claim 32), new Claim 32 recites means for adjusting the lengths of the bridle limbs with the respective bridle limbs passing through guides before attachment to movable attachment points. Rowley, it is respectfully contended, fails to disclose or suggest any adjustment of the length of the bridle limbs therein. On the contrary, the bridle limbs are attached to fixed attachment points (26), thereby teaching against any adjustment of the bridle limbs. Further, there is no suggestion in Rowley of the guides through which the bridle limbs pass.

Accordingly, Applicant respectfully submits that new independent Claims 18 and 32 are neither anticipated by, nor obvious over, Rowley, U.S. Patent No. 6,016,932, and, thus, the Examiner's 35 U.S.C. §102(e) anticipation rejection of the first Office Action should be appropriately withdrawn.

Concerning, finally, the remaining reference made of record by the Examiner, but not applied in any rejection of Applicant's claims, such additional art reference has been carefully considered, but are not believed to adversely affect the patentability of the present invention, as claimed.

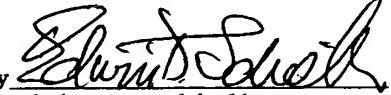
Reece, U.S. Patent No. 6,435,772, issued August 20, 2002, and made of record by the Examiner, carries a §102(e) date of March 3, 2000, and is therefore subsequent to Applicant's claimed date of foreign priority and, as such, is not properly citable against the claims of the instant patent application.

In view of the foregoing, it is respectfully contended that all claims now pending in the above-identified patent application (i.e., Claims 18-35) recite a novel and efficient plough for marine use, which may properly operate in an offset tow position, which is patentably distinguishable over the prior art. Accordingly, withdrawal of the outstanding

objections and rejections and the allowance of all claims now pending are respectfully requested and earnestly solicited.

Respectfully submitted,

TIMOTHY WILLIAM GRINSTED

By 
Edwin D. Schindler
Attorney for Applicant
Reg. No. 31,459

Five Hirsch Avenue
P. O. Box 966
Coram, New York 11727-0966

(631)474-5373

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Enc.: 1. Petition for Three-Month Extension of time; and,
2. Check for \$475.00 (Three-Month Extension Fee).

The Commissioner is hereby authorized to charge the Deposit Account of Applicant's Attorney, Account No. 19-0450, for any additional fees which may be due in connection with the prosecution of the present application, but which have not otherwise been provided for.